

IN THE CLAIMS:

Please cancel claims 1-35, without prejudice. This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims

Claims 1-35. (Canceled)

36. (New) A method of obtaining an amino acid, amine or prochiral ketone comprising contacting an enzyme with a substrate comprising an aromatic amino acid and an α -keto acid to thereby obtain the amino acid, amine or prochiral ketone, wherein the enzyme comprises:

- (i) aminotransferase activity;
- (ii) higher aminotransferase activity when an aromatic amino acid is used as an amino group donor rather than when a non-aromatic amino acid is used as an amino group donor;
- (iii) an optimum temperature of 90 °C; and
- (iv) an N-terminal amino acid sequence of Ala Leu Ser Asp Arg Leu Glu Leu Val Ser Ala Ser Glu Ile Arg Lys Leu Phe Asp Ile Ala Ala Gly Met (SEQ ID NO:1 from amino acid 2 to 25).

37. (New) A method of obtaining an amino acid, amine or prochiral ketone comprising contacting an enzyme with a substrate comprising an aromatic amino acid and an α -keto acid to thereby obtain the amino acid, amine or prochiral ketone, wherein the enzyme comprises:

- (i) aminotransferase activity;
- (ii) higher aminotransferase activity when an aromatic amino acid is used as an amino group donor rather than when a non-aromatic amino acid is used as an amino group donor,
- (iii) an optimum temperature of 90 °C;

(iv) an N-terminal amino acid sequence Ala Leu Ser Asp Arg Leu Glu Leu Val Ser Ala Ser Glu Ile Arg Lys Leu Phe Asp Ile Ala Ala Gly Met (SEQ ID NO:1 from amino acid 2 to 25);

- (v) an optimum pH of 6.0;
- (vi) activity even when subjected to treatment at pH 6.5 and 95 °C for 6 hours;
- (vii) a half-life at pH 6.5 and 110 °C of 30 minutes;
- (viii) stability at pH 4 to pH 11 and 25 °C for 24 hours or more;
- (ix) a melting temperature at pH 6.5 of 120.1 °C where molar enthalpy change is 2.4×10^3 KJ/mole;
- (x) an α -helix content of 40% at pH 6.5 and 25 °C;
- (xi) molecular weight of 44,000 Da;
- (xii) a homodimeric subunit structure; and
- (xiii) an isoelectric point of 5.2.

38. (New) A method of obtaining an amino acid, amine or prochiral ketone comprising contacting an enzyme selected from the group consisting of:

- (a) an enzyme comprising an amino acid sequence of SEQ ID NO:1; and
- (b) an enzyme comprising an amino acid sequence of SEQ ID NO:1 having one or more deletions, replacements or additions and having aminotransferase activity,

with a substrate comprising an aromatic amino acid and an α -keto acid to thereby obtain the amino acid, amine or prochiral ketone.